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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,394	06/28/2001	Frank V. Peschel-Gallee	MS174295.1	6426

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EXAMINER
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GODDARD, BRIAN D

ART UNIT	PAPER NUMBER
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2161

DATE MAILED: 02/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/894,394	<b>Applicant(s)</b> PESCHEL-GALLEE ET AL.	
	<b>Examiner</b> Brian Goddard	<b>Art Unit</b> 2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12 August 2004 has been entered.
2. Claims 1-40 are pending in this application. Claims 1, 14, 25, 27-29, 32 and 36 are independent claims. In the Amendment filed 12 August 2004, claims 29-40 were added, and claims 1, 14, 25 and 27-28 were amended. This action is non-final.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 28 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Specifically, the claim is directed to "a signal," which is a naturally occurring phenomenon, and cannot be classified into any of the statutory categories of invention above.

To expedite a complete examination of the instant application, the claims rejected under 35 U.S.C. 101 (nonstatutory) above are further rejected as set forth

below in anticipation of applicant amending these claims to place them within the four statutory categories of invention.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 29-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 29 recites the limitation "the code" in the fifth line of the claim. There is insufficient antecedent basis for this limitation in the claim. In particular, it is unclear whether "the code" refers to the "managed code," the "unmanaged code," or the "code associated with the caller component" recited previously.

Claims 30 and 31 each depend from claim 29, and are therefore indefinite for the same reason.

In the interest of compact prosecution, the examiner assumes that "the code" refers to the "code associated with the caller component" recited in the previous line.

***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-40 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,081,665 to Nilsen et al.

Referring to claim 1, Nilsen discloses a system that facilitates communicating between managed and unmanaged code as claimed. See Figures 1-6 & 94-95 and the corresponding portions of Nilsen's specification for this disclosure. In particular, Nilsen teaches "a system that facilitates communicating [method invocation calls] between managed and unmanaged code [byte-code or JIT-translated code methods], comprising:

a first component [byte-code or JIT-translated code segment or object] that is one of the managed and unmanaged code; and

a caller [See column 13, line 24 – column 18, line 44] associated with the first component, the caller having code that invokes ['special invocation'] an object related to a second component [external byte-code method], the second component being one of the managed and unmanaged code, the caller's code including an in-lined stub [a stub for the called method 'is hard-coded into the caller's machine code' (See column 13, line 24 – column 14, line 6; and column 15, lines 49-58)] that facilitates communications between the objects [See Section 4.2 (column 17, line 44 et seq.)]" as claimed.

Referring to claim 2, Nilsen discloses the system for facilitating communication between managed and unmanaged code as claimed. See section 4.2 (columns 17-18) for the details of this disclosure. In particular, Nilsen teaches the system of claim 1, as above, "the in-lined stub including a call and return pair [See steps 7 – 8 of the method of section 4.2] to facilitate communication between the objects" as claimed.

Referring to claim 3, Nilsen discloses the system for facilitating communication between managed and unmanaged code as claimed. See column 40, lines 27-59 and column 63, line 64 – column 64, line 5 of Nilsen's specification for this disclosure. Nilsen teaches the system of claim 1, as above, "further comprising a stack marker [stack pointer(s)] that is hoisted [relocated or 'contiguously expanded'] from within a code loop associated with the caller ['a loop that repeatedly calls this procedure' (column 40, line 46)] to facilitate code execution performance during communications between the objects" as claimed.

Referring to claim 4, Nilsen discloses the system for facilitating communication between managed and unmanaged code as claimed. See section 4.2 (columns 17-18) of Nilsen's specification for the details of this disclosure. Nilsen's caller further comprises "transition code ['the monitor' (see steps 5 & 9 of the method of section 4.2)] to synchronize execution between the objects" as claimed. See section 6.2 for the details of the monitor.

Referring to claim 5, Nilsen discloses the system for facilitating communication between managed and unmanaged code as claimed. See sections 4.2 and 5.0 as well as Figure 42 and the corresponding portion of Nilsen's specification for this disclosure. Nilsen's caller further comprises one or more flags [preemption flags] to synchronize execution between the objects [See the method of section 4.2 and the discussion in section 5.0] as claimed.

Referring to claim 6, Nilsen discloses the system for facilitating communication between managed and unmanaged code as claimed. Again, see sections 4.2 and 5.0

as well as Figure 42 and the corresponding portion of Nilsen's specification for this disclosure. Nilsen teaches the system of claim 5, as above, "the one or more flags utilized to synchronize code execution [See steps 6-11 of the method of section 4.2] with a garbage collector [See section 5.0]" as claimed.

Referring to claim 7, Nilsen discloses the system for facilitating communication between managed and unmanaged code as claimed. See sections 4.2, 5.0 and 5.5 as well as Figure 42 and the corresponding portion of Nilsen's specification for this disclosure. Nilsen teaches the system of claim 6, "the one or more flags utilized to suspend return operations from the unmanaged code [preempt using 'slow pointers' (See section 5.0 and column 24, line 59 et seq.)] until operations associated with the garbage collector have completed" as claimed.

Referring to claim 8, Nilsen discloses the system for facilitating communication between managed and unmanaged code as claimed. See section 4.2 for the details of this disclosure. In particular, Nilsen's caller further comprises security attribute code [JIT-translator and byte-code interpreter] to insulate the objects from at least one of code and security implementation details [See section 4.2] as claimed.

Referring to claims 9 and 10, Nilsen discloses the system for facilitating communication between managed and unmanaged code as claimed. See section 4.2 for the details of this disclosure. Nilsen's caller further comprises calling convention code [pvm()] to organize arguments and an execution stack [Step 7 (See sections 2.0 – 3.0)] and interpret return values from the unmanaged code [Step 8] as claimed.

Referring to claim 11, Nilsen discloses the system for facilitating communication between managed and unmanaged code as claimed. See section 4.2 for the details of this disclosure. Nilsen's caller includes an in-lined marshalling code [pvm()] to transfer data between the objects [See sections 2.0 – 3.0] as claimed.

Referring to claims 12 and 13, Nilsen discloses the system for facilitating communication between managed and unmanaged code as claimed. See column 5, line 66 – column 6, line 6 and the corresponding portions of Nilsen's detailed description for the details of this disclosure. Nilsen's caller further comprises an extensibility component ['mechanism to translate traditional Java byte codes into the extended PERC byte codes' (column 6, lines 3-4)] including a function pointer that includes one or more functions as arguments [See sections 2.0 – 3.0] for facilitating generalized communication between the objects as claimed.

Claim 14 is rejected on the same basis as claim 2. See the discussions regarding claims 1 and 2 above for the details of this disclosure.

Claims 15-16 are rejected on the same basis as claims 3-4 respectively, in light of the basis for claim 14. See the discussions regarding claims 1-4 above for the details of this disclosure.

Claims 17-20 are rejected on the same basis as claims 6-9 respectively, in light of the basis for claim 14. See the discussions regarding claims 1-9 above for the details of this disclosure.



Claims 21-23 are rejected on the same basis as claims 11-13 respectively, in light of the basis for claim 14. See the discussions regarding claims 1-2 and 11-13 above for the details of this disclosure.

Claims 24 and 25 are rejected on the same basis as claim 14. See the discussions regarding claims 1-2 above for the details of this disclosure.

Claim 26 is rejected on the same basis as claim 15, in light of the basis for claim 25. See the discussions regarding claims 1-3 above for the details of this disclosure.

Claim 27 is rejected on the same basis as claims 1-3 above. See the discussions regarding claims 1-3 for the details of this disclosure.

Claim 28 is rejected on the same basis as claim 1. See the discussion regarding claim 1 above for the details of this disclosure.

Claims 29-31 are rejected on the same basis as claims 1-3 respectively. See the discussions regarding claims 1-3 above for the details of this disclosure.

Claims 32-35 are rejected on the same basis as claims 2-4 & 11 respectively. See the discussions regarding claims 1-4 and 11 above for the details of this disclosure.

Claims 36-40 are rejected on the same basis as claims 2-4, 8 & 7 respectively. See the discussions regarding claims 1-4 and 7-8 above for the details of this disclosure.

### ***Response to Arguments***

6. Applicants' arguments filed 12 August 2004 have been fully considered but they are not persuasive.

Referring to applicants' remarks regarding the telephonic interview on 11 August 2004: Applicants stated that "it was agreed that clarification to emphasize the in-lined nature of the stub would overcome and distinguish from the cited references."

This statement is incorrect. The agreement reached during the telephonic interview of 11 August 2004 was that the "clarification to emphasize the in-lined nature of the stub" would overcome and distinguish from the Bershad reference. However, the Nilsen reference was only discussed in a cursory manner during the interview, and the examiner clearly indicated that further consideration of the Nilsen reference was necessary in light of the proposed amendments. (See Interview Summary mailed 20 August 2004)

Upon further consideration of the Nilsen reference, the Office maintains that Nilsen fully anticipates claims 1-40 of the instant application, including the amended subject matter. Specifically, Nilsen explicitly states that the stub is hard-coded into the caller's code (Column 14, lines 2-6), making the stub in-lined (Column 15, lines 49-58) as claimed. Refer also to Column 26, lines 36-53 of Nilsen's specification for additional disclosure along these lines. Therefore, the Office maintains that Nilsen does disclose the "in-lined stub" included within the caller's code as claimed.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Specifically, U.S. Patent No. 6,751,798 to Schofield and U.S. Patent No. 6,393,497 to Arnold et al. are each considered pertinent to applicants' disclosure, and/or portions of applicants' claimed invention.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Goddard whose telephone number is 571-272-4020. The examiner can normally be reached on M-F, 9 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 571-272-4023. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

bdg  
16 February 2005

  
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